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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,417	10/17/2005	John Patrick Fitzgerald	041129-0110	1526
22428 7590 04/03/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
JOHNSTON, PHILLIP A				
ART UNIT		PAPER NUMBER		
2881				
MAIL DATE		DELIVERY MODE		
04/03/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/553,417

**Applicant(s)**

FITZGERALD ET AL.

**Examiner**

PHILLIP A. JOHNSTON

**Art Unit**

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1.5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1.5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

1. This Office Action is submitted in response to Amendment filed 12-10-2007, wherein claims 2-4 and 7-9 have been canceled and claims 1, 5, and 6 have been amended. Claims 1, 5, and 6 are pending.

***Examiners Response to Arguments***

2. Applicants arguments are moot in view of new grounds for rejection necessitated by the applicant's amendment.

***Claims Rejection – 35 U.S.C. 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

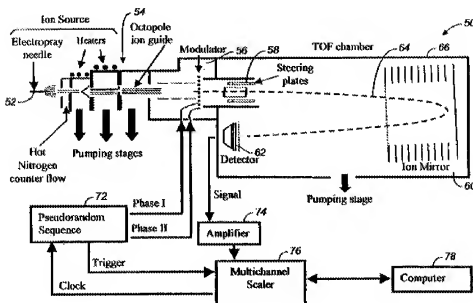
4. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,300,626 to Brock, in view of Miller, USPN 6,263,087, and in further view of Loboda, US Pat Pub No 2002/0070338.

5. Regarding claim 1, Brock discloses at Col. 4, line 8-58; Col. 7, line 1-47;

(a) a detection system, time of flight mass spectrometer at reference numeral 50 in Figure 3 below, which includes;

(b) an entry gate, the modulator 56 in Figure 3,

(c) control switching of the gate in a pseudorandom binary sequence using the pseudorandom generator 72 in Figure 3 below, for encoding the beam by means of a binary sequence that modulates the ion beam turning it on or off.



**FIG. 3**

(d) analyzing the output using matrix algebra with matrix S. See Col. 4, line 40-57; and Figure 1b.

6. Brock fails to disclose the use of a bit flipped pseudo random binary sequence.

7. Miller discloses error correction encoding of bit sequences using bit flipping.

See Col. 4, line 8-58; and Col. 7, line 1-47.

8. Miller modifies Brock to provide an encoder where the binary sequence is corrected by flipping all bits.

9. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made that Brock would use the encoding process of Miller to provide bit sequences corrected for noise.

10. Regarding claim 5, the combination of Brock and Miller discloses the use of ion guide 56 in Figure 1 above, but fails to teach an IMS system having a drift region.

11. Loboda discloses an ion mobility section where an ion guide is used as a drift or mobility section. See [0064].

12. Loboda modifies the combination of Brock and Miller to provide an ion guide having an axial field for operation as an IMS.

13. Therefore it would have been obvious to one of ordinary skill in the art that Brock and Miller would use the ion guide configuration of Loboda to provide a drift region for separating ions based on their mobility.

14. Regarding claim 6, the combination of Brock and Miller discloses the apparatus used for this method claim, as described above regarding claim 1.

### ***Conclusion***

15. The Amendment filed on 12-10-2007 has been considered but the arguments are moot in view of new grounds for rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Robert Kim can be reached at (571) 272-2293. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

March 18, 2008

/ROBERT KIM/

Supervisory Patent Examiner, Art Unit 2881